UNITED STATES DEPARTMENT OF THE INTERIOR
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FISH AND WILDLIFE SERVICE
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Shipka 1945

Circular 10

THE MOURNING DOVE AS A GAME BIRD

BY

FREDERICK C. LINCOLN

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price 5 cents

FOREWORD

The Fish and Wildlife Service has long urged delay in the opening of the hunting season on the mourning dove until October 1 or even later in the Southern States east of the Mississippi River. Because the hunters, lacking knowledge of the real need for delayed shooting, failed to support this stand, late September hunting has been permitted. Administrative agencies unfortunately cannot conduct management strictly on the basis of the needs of the creatures involved, but have in addition the problem of managing the hunters—just as important and often more difficult than managing the birds. Without public support the soundest restrictions are likely to fail. It is hoped that this leaflet will contribute to a better public understanding—the most pressing need in present mourning dove management.

ALBERT M. DAY, *Assistant Director*,
FISH AND WILDLIFE SERVICE.

THE MOURNING DOVE AS A GAME BIRD

By FREDERICK C. LINCOLN, *Biologist in Charge, Distribution and Migration of Birds, Division of Wildlife Research, Fish and Wildlife Service*

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INTRODUCTION

Sound management principles based on scientific findings must be applied to the mourning dove if its status as a popular game bird is to continue. As the result of extensive research in four or five States well distributed through the range of the species, basic information is now available on which to plan good management.

Few birds exert a stronger esthetic and sporting appeal than does the mourning dove. The trim beauty of its form (fig. 1), the soft delicate shades of color touched by spots of metallic luster, the whistling sound emitted by the rapid beat of wings in a swift, arrowlike flight that calls for the greatest skill of the marksman, and the soothing, plaintive quality of its call-notes make it popular with both sportsmen and nature students.

DISTRIBUTION

BREEDING RANGE

Among all the birds classified as game, the mourning dove is unique in that it is the only one that breeds in every one of the United States. Its range during the breeding season also extends across southern Canada from British Columbia to Ontario, and to the southward to Haiti, Cuba, and central Mexico. Thus it migrates across both of our international boundaries and accordingly is protected by the Federal Government under the terms of the migratory bird treaties between the United States and Great Britain, proclaimed in 1916, and between the United States and Mexico, of 1937.

Three subspecies of the mourning dove occupy this great range, only two of which are known to occur on the North American mainland. The eastern mourning dove (*Zenaidura macroura carolinensis*) is found from the Atlantic seaboard west to the eastern edge of the Great Plains, where it blends with the western race, *Z. m. marginella*. So far as known, the so-called typical race, or West Indian mourning dove (*Z. m. macroura*), is nonmigratory and is confined to the islands of the Caribbean region. Two other subspecies live on islands off the west coast of Mexico.

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Figure 1.—The mourning dove is the only game bird that breeds in every State. [Photographed by Allen M. Pearson.]

WINTER RANGE

Single birds or even small flocks of doves sometimes spend the winter north almost to the limits of the breeding range, but normally at that season the doves are found south of a zone that extends eastward across the United States from California to Colorado, Iowa, southern Michigan, Ohio, and New Jersey.

Most of the doves breeding east of the Mississippi River concentrate during the winter in the Southeastern States: South Carolina, Georgia, northern Florida, Alabama, Mississippi, and Louisiana. In some years, however, large flocks winter north as far as Kentucky and North Carolina. Few if any of these eastern birds leave the United States at any time. On the other hand, many of the western doves regularly winter in Mexico.

MIGRATION

Because of the extensive breeding range of the mourning dove it is obvious that many birds that nest in southern latitudes where they

can winter, make either a very short migratory flight or none at all. In the early days of the administration of the Migratory Bird Treaty Act this fact caused some complications. Hunters attempted to prove that the dove was a resident species and so was not subject to Federal regulation. In 1921, however, the Federal court at Athens, Ga., decided that the mourning dove as a species is a migratory bird and that it is entitled to the protection afforded by the Migratory Bird Treaty Act, even though individual doves may remain yearlong within the borders of certain States.

Since that time, chiefly through the banding method, much new information has been obtained, all of which gives powerful support to the judicial decision cited. Considering only the region represented by the Southeastern States of Georgia, Florida, Alabama, Mississippi, and Louisiana (there being hundreds of recovery records from those States of doves that were banded in Manitoba, North Dakota, Iowa, Wisconsin, Missouri, Illinois, Indiana, Michigan, Ohio, Ontario, Pennsylvania, New York, New Jersey, and Massachusetts), it may be truthfully said that during the winter the Southeastern States are the custodians of most of the doves that belong to all the people of the eastern United States and Canada. Also it should be noted particularly that few of the doves banded in the Northern States and Provinces mentioned have been recovered either in Mexico or on any of the West Indian islands. These eastern mourning doves are strictly North American and when records of them are plotted on a map, concentration in the Southeast is strikingly revealed.

Banding records of doves nesting in the Great Plains, Rocky Mountain, and Pacific Coast regions reveal a more normal north-and-south migration, many of the recoveries being from points well south in Mexico; these are records chiefly of the western mourning dove.

BREEDING

Sound management of the mourning dove as of other game species must give full weight to breeding habits. With this widely distributed, and in the south almost perennially breeding, species, however, it is doubtful whether perfect management can ever be attained. Nevertheless, public interest and humanitarian principles alike demand that this objective be achieved as nearly as possible.

The great difficulty lies in the fact that while doves normally lay but two eggs to a setting (fig. 2), they are multi-brooded, that is, a single pair of birds may produce several broods each season. Even in the most northern parts of the breeding range two broods are common, while in the South there may be as many as five or six. Building the nest, incubating the eggs, and caring for the squabs (fig. 3) require a period slightly longer than one month.

In the Southeastern States it is probable that some nesting occurs during every month of the year. Even as far north as Virginia the author on one occasion found a dove incubating her eggs on February 22. In the course of exhaustive studies by Allen M. Pearson and George C. Moore in Alabama (the results of which are applicable as well to other States of the Southeast),[1] the earliest date on which a

[1] The Mourning Dove in Alabama, by George C. Moore and Allen M. Pearson. Alabama Cooperative Wildlife Research Unit, Auburn. 36 pp., 3 maps, 4 graphs, and numerous photographs. July 1941.

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Figure 2.—Nest of a mourning dove. Nests are commonly found from March to September. A single pair may produce several broods each season. [Photographed by Leo K. Couch, July 27, 1941.]

dove was found in breeding condition was December 9, but by the last of that month nearly 4 percent of all males examined were found to be capable of breeding. The evidence indicates that the percentage increases slowly through January but by the last of February rises rapidly. During March it rose to 76 percent and in April to 96 percent. Throughout the summer months all adult doves were considered as potential breeders, and nesting continued until early in September when a decline began. Even in the middle of September, however, more than 40 percent of the males examined were in breeding condition. During October and November sexual activities were virtually dormant. Some nestlings hatched in the spring reached maturity and began nesting in August or September of their first year. On the basis of the number of nests for each month, the average for September was about 15 percent of the maximum, which occurred about June 1. It is doubtless true that most of the birds completed nesting by September but, nevertheless, during that month a relatively large number were still engaged in the incubation of eggs and the care of young.

Late breeding is the main factor complicating dove management, and it would be an obvious mistake to permit sport shooting during a period when, for many of the birds that are killed, two young also will die in their nest from starvation. Not understanding this fact, many hunters in the South continue to insist that the shooting season begin in September.

Results of studies that have been made in North Carolina, Iowa,[2] and in northeastern Texas all parallel the Alabama findings. In 1941 at two banding points in North Carolina fledglings were banded in their nests as late as September 27 and October 4; over a 3-year period in Iowa 21.9 percent of the young left the nest after September 1, and 2.3 percent after October 1; and in Throckmorton County, Tex., young doves were observed to leave their nests as late as September 25.[3] Similar data are available from other southern

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Figure 3.—Mourning dove brooding young in the nest. Building the nest, incubating the eggs, and caring for the squabs require a period slightly longer than one month. [Photographed by Allen M. Pearson, September 2, 1938.]

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[2] Ecology and Management of the Mourning Dove, *Zenaidura macroura* (Linn.), in Cass County, Iowa, by H. Elliott McClure, Iowa Agricultural Experiment Station Research Bulletin 310, pp. 356–415, 36 tables. February 1943.

[3] A preliminary report on the status of the Mourning Dove in Throckmorton County, Texas, by Alfred S. Jackson. 1942. [Unpublished.]

States, notably Tennessee, where in the vicinity of Nashville there are many records of nests with broods during the period September 15 to October 7.

GROWTH OF YOUNG

After the young are hatched, they are fed by regurgitation on "pigeon's milk," a glandular secretion produced in the crops of both parents (fig. 4). The young birds leave the nest at 11 or 12 days of age.

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Figure 4.—Squabs are fed by regurgitation on "pigeon's milk," a glandular secretion produced in the crops of both parents. [Photographed by Allen M. Pearson.]

The average weight of adult mourning doves is about 4½ ounces. Based on the examination of 653 immature doves by Dr. Pearson, evidence indicates that 95 percent of the immature doves in Alabama prior to November 20 weigh less than 3½ ounces. He, therefore, recommended that all shooting (in that State) be prohibited prior to that date "to permit most of the immature birds to reach a size (3½ ounces) making them suitable for sport and table use."

Of 39 immature birds killed on September 3 at Chataignier, La., 22 weighed less than 3½ ounces, 9 weighing only a trifle more than 3 ounces, and of 93 young birds taken at Crowley, La., as late as October 16, 15 were still far short of the 3½ ounce standard. In a small collection of 8 immature birds taken at Boyle, Miss., on September 15, there were only 2 that weighed less than 3½ ounces, but the largest bird weighed only a little more than 4 ounces and the other 5 were all grouped between 3½ and 3¾ ounces. In a bag of immature birds killed on September 1, at Pantherville, Ga., 20 percent were

well below 3½ ounces in weight, and of those that did exceed this minimum, nearly half were well under 3¾ ounces. Of 32 immature doves taken on September 3, at Walnut Grove, Ga., an even 25 percent weighed less than 3½ ounces, and about half of the others weighed only slightly more. Almost identical figures apply to a third Georgia bag of 34 young birds killed at Social Circle, Walton County, on September 15.

During the shooting season of 1944 several Alabama wardens gave particular attention to the size of the doves they found in the bags of hunters. Thirty-two lots, totaling 231 birds, were examined from September 16 to 25. Of these, 129 were immature, and this caused the wardens to add as comments to their reports: "Very small, and full of pinfeathers;" "all small;" and "too small to eat."

Sports writers for some of the southern newspapers have begun to give attention to this situation, the following quotations from one of them being typical: "The bulk of the first kills last season were immature birds, of such small size as to scarcely be worth dressing," and "* * * reported kills lately have had a majority of young birds, many still in the pinfeather state."

NATURAL MORTALITY

In addition to the annual toll of the hunters, the mourning dove suffers losses from a variety of causes, most important of which is the weather. Flimsy structure renders the nest particularly vulnerable to high winds. During a 3-year study of this species in Cass County, Iowa, storms caused 25 percent of all nesting losses, which exceeded those from all other causes. Losses due to adverse weather are not confined to the breeding season, as in January 1940, when snow and freezing weather extended south to the Gulf coast, covering the chief wintering grounds of the mourning dove and shutting off its food supply, the birds starved to death by the thousands, and they were so reduced in numbers that drastic regulatory action was required to give them a chance to recover.

As nesting sites vary from depressions in fields to limbs of trees 50 or 60 feet above the ground, incubating and brooding birds as well as their eggs and young are subject to attack by a variety of predators. Although the total losses to predators are considerable, no single enemy is responsible for serious depredations.

MANAGEMENT

In view of the difficulties of mourning dove management, it is proper to ask: "What is the remedy?" The needs of the bird are easily stated, but to satisfy them by administrative action unfortunately is a problem.

In that region lying south of the northern boundaries of North Carolina, Tennessee, Arkansas, and Oklahoma, the evidence indicates that sport shooting (fig. 5) should not be permitted before October 1.

In some parts of the Southeast it is claimed that the mourning doves leave shortly after September 1. This claim is even made for localities on the Gulf of Mexico despite the fact that these birds do not at any time go south of those shores. Possibly dove flights may pass through some of these areas shortly after September 1, but even

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Figure 5.—Dove hunting on typical mourning dove habitat. Hunters find 25 to 50 percent of the immature young of the year and 15 percent of the season's occupied nests in September. [Photographed by Allen M. Pearson.]

so, with many locally breeding birds still occupied with nesting activities, opening a shooting season at that time would be poor management, as well as inhumane because of the starvation of young it would cause.

Informed public sentiment is necessary to the promulgation and enforcement of satisfactory laws and regulations. That it can be achieved has been abundantly demonstrated in Alabama where the results of the extensive study made by George C. Moore and Allen M. Pearson, of the Alabama Cooperative Wildlife Research Unit, sponsored by the State Department of Conservation, the Alabama Polytechnic Institute, the American Wildlife Institute, and the United States Fish and Wildlife Service, have been given wide publicity. As a result, proposal of a hunting season that does not conform to the recommendations made brings forth a storm of protest from the sportsmen. The findings of this investigation apply more or less to all of the Southeastern States and should in principle guide the management of the mourning dove in that region.

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